CLAIM AMENDMENTS

Please cancel claims 3, 25, 32, 33 and 36 and amend the remaining claims as follows:

Claim 1 (currently amended): An annular recuperator for transferring heat from a hot fluid stream to a cool fluid stream, comprising:

a generally cylindrical annular housing defined by an inner diameter and an outer diameter, the housing having axially opposed first and second ends;

a plurality of cold cells extending generally radially from the inner diameter to the outer diameter in spaced-apart relationship to one another, each cold cell having at least a first stage for conducting the cool fluid stream from a first stage fluid inlet formed in the inner diameter near the second end to a first stage fluid outlet formed in the outer diameter ~~near~~ nearer the first end than the second end; and

a plurality of hot cells disposed within the housing in alternating relationship with the cold cells for conducting the hot fluid stream from the first end to the second end.

Claim 2 (currently amended): The annular recuperator of claim 1, wherein ~~the plurality of cold cells including a fluid inlet and fluid outlet comprises:~~

~~a plurality of cold cells,~~ said first stage fluid inlet of each cold cell ~~including a fluid inlet and a~~ is located generally diagonally opposite said first stage fluid outlet to substantially equalize fluid flow through the first stage of the cell.

Claim 3 (canceled)

Claim 4 (currently amended): The annular recuperator of claim 1, wherein each hot cell comprises:

an open passage defined [[by]] between the two adjacent cold cells ~~therebetween~~.

Claim 5 (currently amended). The annular recuperator of claims 2 or 4, wherein each cold cell further comprises:

a pair of substantially parallel, spaced-apart surfaces;

and

a plurality of flow partitions extending between the surfaces to define flow channels for conducting the cool fluid stream in a generally axial direction from the first stage fluid inlet toward the first stage fluid outlet.

Claim 6 (currently amended): The annular recuperator of claim 5, wherein each cold cell further comprises:

directional channels extending from the first stage fluid inlet and the first stage fluid outlet toward the flow channels to conduct the cool fluid stream from the first stage fluid inlet and to the first stage fluid outlet, respectively.

Claim 7 (currently amended): The annular recuperator of claim 6, wherein ~~the directional channels comprise~~:

the directional channels ~~extending from the fluid inlet and the fluid outlet~~

~~toward the flow channels to~~ substantially equalize fluid flow paths through the respective cold cell.

Claim 8 (currently amended): The annular recuperator of claim 1, wherein each cold cell <u>further</u> comprises:

~~a first stage extending radially from the inner diameter to the outer diameter, the first stage including a fluid inlet formed in the inner diameter near the second end and an intermediate fluid outlet formed in the outer diameter; and~~

a second stage extending radially from the inner diameter to the outer diameter and coplanar with the first stage, the second stage including ~~an intermediate~~ <u>a second stage</u> fluid inlet formed in the outer diameter and in communication with the ~~intermediate~~ <u>first stage</u> fluid outlet, and further including a <u>second stage</u> fluid outlet formed in the inner diameter near the first end.

Claim 9 (original): The annular recuperator of claim 1, wherein each cold cell comprises:

a plurality of coplanar, axially aligned stages extending radially from the inner diameter to the outer diameter, each stage including a fluid inlet and a generally diagonally opposed fluid outlet, each stage having at least one of the inlet or the outlet in fluid communication with the outlet or the inlet, respectively, of an adjacent stage.

Claim 10 (original): The annular recuperator of claims 8 or 9, wherein the stage at

the first end is formed from a different material than the other stages.

Claim 11 (original): The annular recuperator of claim 8, wherein the second stage is formed from a high-temperature alloy and the first stage is formed from a stainless steel.

Claim 12 (currently amended): A method for transferring heat from a hot fluid stream to a counter-flowing cool fluid stream, comprising:

(a) providing a generally cylindrical annular housing defined by an inner diameter and an outer diameter, the housing having axially opposed first and second ends;

(b) providing a plurality of cold cells extending radially from the inner diameter to the outer diameter in spaced-apart relationship to one another, each cold cell including [[a]] at least a first stage having a first stage fluid inlet formed in the inner diameter near the second end and a first stage fluid outlet formed in the outer diameter ~~near~~ nearer the first end than the second end;

(c) providing a plurality of hot cells disposed within the housing in alternating relationship with the cold cells;

(d) passing the hot fluid stream through the hot cells from the first end of the housing to the second end; and

(e) passing the cool fluid stream through the cold cells from the first stage fluid inlets to the first stage fluid outlets to acquire heat energy from the hot fluid stream.

Claim 13 (currently amended): The method of claim 12, wherein ~~providing the plurality of cold cells comprises~~:

~~providing a fluid inlet and a~~ in step (b), said first stage fluid inlet of each cold cell is located generally diagonally opposite said first stage fluid outlet in each cold cell to substantially equalize fluid flow through the first stage of the cell.

Claim 14 (currently amended): The method of claim [[13]] 12, wherein ~~providing an inlet and an outlet~~ step (b) comprises:

providing [[a]] said first stage fluid inlet ~~and a~~ generally diagonally opposite said first stage fluid outlet to substantially equalize fluid flow paths through the first stage of the cell.

Claim 15 (currently amended): The method of claim 12, wherein in step (c) each hot cell comprises:

an open passage defined ~~by the~~ between two adjacent cold cells ~~therebetween~~.

Claim 16 (currently amended): The method of ~~claims~~ claim 13 ~~or 15~~, wherein in step (b) each cold cell further comprises:

a pair of substantially parallel, spaced-apart surfaces;

and

a plurality of flow partitions extending between the surfaces to define flow channels for conducting the cool fluid stream in a generally axial direction from the

first stage fluid inlet toward the first stage fluid outlet.

Claim 17 (currently amended): The method of claim 16, wherein in step (b) each cold cell further comprises:

directional channels extending from the first stage fluid inlet and the first stage fluid outlet toward the flow channels to conduct the cool fluid stream from the first stage fluid inlet and to the first stage fluid outlet, respectively.

Claim 18 (currently amended): The method of claim 17, wherein in step (b) ~~each cold cell comprises~~:

said directional channels ~~extending from the fluid inlet and the fluid outlet toward the flow channels to~~ substantially equalize fluid flow paths through the respective first stage of each cold cell.

Claim 19 (currently amended): The method of claim 12, wherein step (b) further ~~each cold cell~~ comprises:

~~a first stage extending radially from the inner diameter to the outer diameter, the first stage including a fluid inlet formed in the inner diameter near the second end and an intermediate fluid outlet formed in the outer diameter; and~~

providing each cold cell with a second stage extending radially from the inner diameter to the outer diameter and coplanar with the first stage, the second stage including ~~an intermediate~~ a second stage fluid inlet formed in the outer diameter and in communication with the ~~intermediate~~ first stage fluid outlet, and further

including a second stage fluid outlet formed in the inner diameter near the first end.

Claim 20 (currently amended): The method of claim 12, wherein step (b) further ~~each cold cell~~ comprises:

providing each cold cell with a plurality of coplanar, axially aligned stages extending radially from the inner diameter to the outer diameter, each stage including a fluid inlet and a generally diagonally opposed fluid outlet, each stage having at least one of the inlet or the outlet in fluid communication with the outlet or the inlet, respectively, of an adjacent stage[[.]], said first stage being one of said plurality of stages.

Claim 21 (currently amended): The method of ~~claims~~ claim ~~19 or~~ 20, wherein the stage at the first end is formed from a different material than the other stages.

Claim 22 (original): The method of claim 19, wherein the second stage is formed from a high-temperature alloy and the first stage is formed from a stainless steel.

Claim 23 (currently amended): A method of transferring heat from a hot fluid stream to a cold fluid stream, comprising:

providing a plurality of cold cells, each cold cell for conducting cold fluid from a respective cold cell inlet to a respective cold cell outlet over a plurality of fluid flow paths having substantially equal path lengths, wherein each cold cell comprises a

plurality of coplanar, axially aligned stages extending radially from an inner diameter to an outer diameter, each stage including a fluid inlet and a generally diagonally opposed fluid outlet, each stage having at least one of the inlet or the outlet in fluid communication with the outlet or the inlet, respectively, of an adjacent stage, and wherein the stage at the first end is formed from a different material than the other stages;

providing a plurality of hot cells, each hot cell for conducting hot fluid from a respective hot cell inlet to a respective hot cell outlet over a plurality of fluid flow paths having substantially equal path lengths;

disposing the cold cells and hot cells in adjoining, alternating relationship to form an annular, generally cylindrical pattern of alternating hot and cold cells;

passing the hot fluid through the hot cells from the hot cell inlets to the hot cell outlets; and

passing the cold fluid through the cold cells from the cold cell inlets to the cold cell outlets to receive heat energy from the hot fluid.

Claim 24 (original): The method of claim 23, wherein providing a plurality of cold cells comprises:

providing a plurality of cold cells, each for conducting cold fluid over a plurality of fluid flow paths having substantially equal fluid flow resistance.

Claim 25 (canceled)

Claim 26 (original): The method of claim 24, wherein each hot cell comprises:

an open passage defined by the two adjacent cold cells therebetween.

Claim 27 (currently amended): The method of claims 23 or 26, wherein each stage of each cold cell further comprises:

a pair of substantially parallel, spaced-apart surfaces;

and

a plurality of flow partitions extending between the surfaces to define flow channels for conducting the cool fluid stream in a generally axial direction from the fluid inlet of the stage toward the fluid outlet of the stage.

Claim 28 (currently amended): The method of claim 27, wherein each stage of each cold cell further comprises:

directional channels extending from the fluid inlet of the stage and the fluid outlet of the stage toward the flow channels to conduct the cool fluid stream from the fluid inlet of the stage and to the fluid outlet of the stage, respectively.

Claim 29 (currently amended): The method of claim 28, wherein ~~each cold cell comprises~~:

the directional channels ~~extending from the fluid inlet and the fluid outlet toward the flow channels to~~ substantially equalize fluid flow paths through the respective stage of each cold cell.

Claim 30 (currently amended): The method of claims 23 or 24, wherein said

plurality of coplanar, axially aligned stages of each cold cell comprises:

a first stage extending radially from the inner diameter to the outer diameter, the first stage including a fluid inlet formed in the inner diameter near the second end and an intermediate fluid outlet formed in the outer diameter; and

a second stage extending radially from the inner diameter to the outer diameter and coplanar with the first stage, the second stage including an intermediate fluid inlet formed in the outer diameter and in communication with the intermediate fluid outlet, and further including a fluid outlet formed in the inner diameter near the first end.

Claim 31 (original): The method of claim 30, wherein the second stage is formed from a high-temperature alloy and the first stage is formed from a stainless steel.

Claims 32-33 (canceled)

Claim 34 (currently amended): A system, comprising:

a combustor for combusting compressed air and fuel to generate hot gas;

a turbine driven by the hot gas and having an outlet for the hot gas;

a compressor with an outlet, the compressor rotationally coupled to the turbine to compress air for the combustor; and

an annular recuperator for transferring heat from the hot gas to the compressed air, the recuperator comprising:

a generally cylindrical annular housing defined by an inner diameter

substantially overlying the turbine and the compressor, an outer diameter, and axially opposed first and second ends, the first end in communication with the turbine hot gas outlet;

a plurality of cold cells extending radially from the inner diameter to the outer diameter in spaced-apart relationship to one another, each cold cell including a first stage for conducting the compressed air from a first stage fluid inlet formed in the inner diameter near the second end and in communication with the compressor outlet to a fluid outlet formed in the outer diameter ~~near~~ nearer the first end than the second end and in communication with the combustor; and

a plurality of hot cells disposed within the housing in alternating relationship with the cold cells for conducting the hot gas from the first end to the second end.

Claim 35 (currently amended): The system of claim 34, wherein ~~the plurality of cold cells including a fluid inlet and fluid outlet comprises~~:

~~a plurality of cold cells,~~ said first stage fluid inlet of each cold cell ~~including a fluid inlet in communication with the compressor outlet and a generally~~ is located diagonally opposite said first stage fluid outlet ~~in communication with the combustor~~ to substantially equalize fluid flow paths through the first stage of the cell.

Claim 36 (canceled)

Claim 37 (currently amended): The system of claim 34, wherein each hot cell comprises:

an open passage defined ~~by the~~ between two adjacent cold cells ~~therebetween~~.

Claim 38 (currently amended): The system of claims 35 or 37, wherein each cold cell further comprises:

a pair of substantially parallel, spaced-apart surfaces;

and

a plurality of flow partitions extending between the surfaces to define flow channels for conducting the compressed air in a generally axial direction from the first stage fluid inlet toward the first stage fluid outlet.

Claim 39 (currently amended): The system of claim 38, wherein each cold cell further comprises:

directional channels extending from the first stage fluid inlet and the first stage fluid outlet toward the flow channels to conduct the compressed air from the first stage fluid inlet and to the first stage fluid outlet, respectively.

Claim 40 (currently amended): The system of claim 39, wherein ~~the directional channels comprise~~:

the directional channels ~~extending from the fluid inlet and the fluid outlet toward the flow channels to~~ substantially equalize fluid flow paths through the first

stage of each respective cold cell.

Claim 41 (currently amended): The system of claim 34, wherein each cold cell further comprises:

~~a first stage extending radially from the inner diameter to the outer diameter, the first stage including a fluid inlet formed in the inner diameter near the second end and in communication with the compressor outlet, the first stage further including an intermediate fluid outlet formed in the outer diameter; and~~

a second stage extending radially from the inner diameter to the outer diameter and coplanar with the first stage, the second stage including ~~an intermediate~~ a second stage fluid inlet formed in the outer diameter and in communication with the ~~intermediate~~ first stage fluid outlet, and further including a second stage fluid outlet formed in the inner diameter near the first end and in communication with the combustor.

Claim 42 (currently amended): The system of claim 34, wherein each cold cell comprises:

a plurality of coplanar, axially aligned stages extending radially from the inner diameter to the outer diameter, each stage including a fluid inlet and a generally diagonally opposed fluid outlet, each stage having at least one of the inlet or the outlet in fluid communication with the outlet or the inlet, respectively, of an adjacent stage, said first stage being one of said plurality of stages.

Claim 43 (original): The system of claims 41 or 42, wherein the stage at the first end is formed from a different material than the other stages.

Claim 44 (original): The system of claim 41, wherein the second stage is formed from a high-temperature alloy and the first stage is formed from a stainless steel.